S/137/62/000/004/035/201
A006/A101

AUTHORS: Kalabushkin, V. S., Pikunov, M. V.

TITLE: Filtration of metal

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 4, 1962, 38, abstract 4G246 ("Sb. nauchn. tr. In-t tsvetn. met. im. M. I. Kalinina", 1960, v. 33, 285 - 288)

TEXT: The authors studied the permeability of lump filters. The investigation method consisted in passing a definite quantity of liquid metal (5 - 7 kg) through a layer of lump material; and in recording the filtration time. The filtration rate was then calculated according to formula

$$\omega = G/\gamma \tau F \text{ cm/sec} \qquad (1)$$

where G is the weight of the filtered metal, in g; γ is the specific metal weight; τ is the filtration time, sec; F is the cross-sectional area of the filter in cm^2. Aluminum was used as test metal; its specific weight at 750 - 800°C is 2.38 g/cm^3. The filter material was crushed magnesite of fraction 4, with lump sizes d within a range of 0.5 - 0.8; 0.8 - 1.0; 1.0 - 1.5 and 1.5 -

Card 1/2

S/137/62/000/004/035/201
A006/A101

Filtration of metal

20 cm. The magnesite lumps were placed in a steel tube of 50 mm in diameter, at whose lower end a steel net was fixed to retain the magnesite. The assembled filter was heated to 850°C prior to the test. For laminar filtration $\omega = KJ$; for turbulent filtration $\omega = A\sqrt{aJ}$, where $K = ad^2$, $J = (h+H)/H$. In the cases investigated, the filtration rate was calculated by formula $\omega = (4.45 + 0.01\ h^2 + 0.001\ H^2)\ [(h + H)/H]\ \sqrt{d}$. The metal discharge through the filter should be derived by formula (1).

G. Svodtseva

[Abstracter's note: Complete translation]

Card 2/2

KALABUSHKIN, V.S.; PIKUNOV, M.V.

Metal filtration. Sbor. nauch. trud. GINTSVETMET no.33:285-288 '60. (MIRA 15:3)
(Liquid metals) (Filters and filtration)

KALALUSHKINA, L.A.

Combined wound of the heart and organs of the abdominal cavity. Khirurgiia Supplement:10 '57. (MIRA 11:4)

1. Iz khirurgicheskogo otdeleniya Uglichskoy gorodskoy i rayonnoy bol'nitsy.
(HEART--WOUNDS AND INJURIES)
(ABDOMEN--WOUNDS AND INJURIES)

KALABUSOVA, M. SULC, J.

Drying of acidophilus milk by spraying. p. 292.

(Prumysl Potravin. Vol. 8, no. 6, 1957. Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 10, October 1957. Uncl.

KALAC, J.

Journal of Applied Chemistry
June 1954
Chemical Engineering and
Electrochemical.

Production of metal powders by methods of amalgam metallurgy. J. Kalač (*Hutnické Listy*, 1954, 9, 83—88).—Laboratory prep. of powders of Ni, Fe, Co, Mn, and Cr, by electrolysis of a solution containing their salts with a Hg cathode, followed by distillation of Hg, is described. Chemical analysis of the powders obtained is given. The size and shape of the particles is determined by electron microscopy.

S. K. Lamowicz.

KALAC,J., SIMALIKOVA, J.

no academic degrees indicated

State textile research Institute (Statny vyskumny ustav), Liberec, laboratory at Bratislava, and department of pharmacology (katedra farmakologie) at SUVL, Bratislava

Bratislava, Farmaceuticky Obzor, No 11-12, 1962, pp 481-486

"Characteristics of the Flax Bacilus"

CZECHOSLOVAKIA

KALAC, J.; ZEMANOVA, J.

1. Scientific Research Institute, Faculty of Pharmacy, Karlova University (Vedeckovyskumny ustav Farmaceutickej fakulty UK) (for Kalac); 2. Institute for the Further Education of Physicians and Pharmacists, Faculty of Pharmacy (Ustav pre dalsie vzdelavanie lekarov a farmaceutov, Katedra farmacie), Bratislava

Bratislava, Farmaceuticky obzor, No 8/9, August-September 1965, pp 362-68

"Properties of linseed mucin (l'anového mucínu). Part 5: On the interaction of the mucin and d-sorbit in solutions and in x-ray contrast materials."

CZECHOSLOVAKIA / Organic Chemistry. Natural Substances and Their Synthetic Analogues. G

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 61104.

Abstract: of III was 52%, boiling point 169 to 170°/0.1 mm, $n^{22}D$ = 1.4473.). The reduction cyclization of 0.1 mole of III in 300 ml of absolute dioxane (5 G of Raney's catalyst, 80 atm, 80°, 2 hours) results in 2-(β-carbethoxy-α-methoxymethylethyl)--pyrrolidone-5 (IV), yield 82%, boiling point - 185 to 188°/0.5 mm, $n^{22}D$ = 1.4752. 0.075 mole of IV in 200 ml of absolute ether is added drop by drop to the suspension of 0.25 mole of $LiAlH_4$ in 200 ml of absolute ether and boiled 5 hours; after cooling, it is decomposed with water, alkalized (150 ml of 55%-ual KOH), the aqueous layer is ex-

Card 2/4

COUNTRY : CZECHOSLOVAKIA
CATEGORY : Organic Chemistry. Natural Substances and Their Synthetic Analogs
ABS. JOUR. : RZKhim., No. 1 1960, No. 1362

AUTHOR : Babor, K.; Jozo, I.; Kalac, V.; Karvas, M.
INST. : -
TITLE : Synthesis of Some Alkaloid Derivatives. XVI.

ORIG. PUB. : Chem. zvesti, 1959, 13, No 3, 163-169

ABSTRACT : The synthesis of 1-methylpyrrolysidino derivatives was carried out, during which the stage of ring closure was effected under conditions approximating physiological ones. The realization of the synthesis appeared to verify Schöpf's hypothesis (Schöpf, C., Angew. Chemie, 1949, 61, 32) regarding the biogenesis of alkaloids from substances of the general formula $CHO(CH_2)_xNH-(CH_2)_xCHO$; the correctness of this hypothesis

CARD: 1/6

G-45

COUNTRY :
CATEGORY : G

ABS. JOUR. : RZKhim., No. 1 1960, No. 1362

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : pH>5, II does not cyclize, and at pH<5 the polymerization products of II are formed. The initial $Cl(CH_2)_3CHO$, b.p. 52-54°/12 mm, was synthesized by oxidation of $Cl(CH_2)_4OH$ with CrO_3 in CH_3COOH. The mixture of 0.05 mole of Ia, 0.5 mole of Ib, 0.05 mole of II and 0.1 mole of potash in 150 ml of abs. alcohol is boiled for 20 hours, diluted with water, and

CARD: 3/6

COUNTRY :
CATEGORY :

G

ABS. JOUR. : RZKhim., No. 1 1960, No. 1362

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT cont'd. : is kept standing for 10 days at ~24°, alkalized with a KOH solution and III is extracted with ether, yielding 10-15%, b.p. 63-67°/1.5 mm, $n^{25}D$ 1.5113; hemichloroplatinate (IIIa), m.p. 156-158° (from alcohol). 1 mmole of IIIa is hydrated in a mixture of 10 ml of alcohol and 0.1 ml of conc. HCl, the solution is concentrated by evaporation to dryness, mixed with 5 ml

CARD: 5/6

KALAC, VLADIMIR

Country: Czechoslovakia

Academic Degrees:

Affiliation:

Source: Bratislava, Nasa Veda, Vol VIII, No 5, 1961, pages 277-280.

Data: "Medicinal Plants and Drugs."

Authors: BABOR, Karol, Engr, S.SC., Chemical Institute, SAV /Slovenska akademia ved; Slovak Academy of Sciences/ (Chemicky ustav SAV), Bratislava.
KALAC, Vladimir, Engr, C.SC., Chemical Institute, SAV.

GPO 981643

BABOR, Karel, inz., C.Sc.; JEZO, Ivan, dr., inz., C.Sc.; KALAC, Vladimir, inz., C.Sc.; KARVAS, Milan, inz.; TIHLARIK, Karel, inz.

Synthesis of certain alkaloid derivates. Part 20. Chem zvesti 15 no.10: 721-724 O '61.

1. Oddelenie chemie prirodnych latok Chemickeho ustavu Slovenskej akademie vied, Bratislava. Aughots' address: Bratislava, Mlynske nivy 37, Chemicky ustav Slovenskej akademie vied.

SEFCOVIC, Pavel, dr., inz., C.Sc.; BABOR, Karol, inz., C.Sc.; KALAC, Vladimir, inz., C.Sc.; DUBRAVKOVA, Libusa, inz., Sc.C.

Preparation of antiarrhythmic substances. Part 2. Chem zvesti 15 no.10: 725-729 O '61.

1. Ceskoslovenska akademie ved, Oddelenie chemie prirodnych latek Chemickeho ustavu Slovenskej akademie vied, Bratislava. Authors' address: Bratislava, Mlynske nivy 37, Chemicky ustav Slovenskej akademie vied.

BABOR, Karol, inz. C.Sc.; KALAC, Vladimir, inz., C.Sc.; PIHLARIK, Karol, inz., C.Sc.

Contribution to periodate oxidation of saccharides. Pt.1. Chem zvesti 18 no.12:913-917 '64.

1. Division of Chemistry of Polysaccharides, Institute of Chemistry, Slovak Academy of Sciences, Bratislava, Dubravska cesta.

BABOR, Karol; KALAC, Vladimir; TIHLARIK, Karol

Preparation and use of starch dialdehyde. Pt. 1. Listy cukrovar 80 no.10:265-269 O '64.

1. Institute of Chemistry, Slovak Academy of Sciences, Bratislava.

BABOR, Karol; KALAC, Vladimir; TIHLARIK, Karol

Preparation and use of dialdehyde of starch. Pt.2. Listy cukrovar 81 no.2:30-33 F '65.

1. Institute of Chemistry of the Slovak Academy of Sciences, Bratislava. Submitted September 9, 1964.

L 1711-66 RM

ACCESSION NR: AP5024160 28B CZ/0034/64/000/012/0913/0917

AUTHOR: Babor, K. (Engineer, Candidate of sciences)(Bratislava); Kalac, V. (Kalach, V.)(Engineer, Candidate of sciences)(Bratislava); Tihlarik, K. (Tiglarik, K.) (Engineer, Candidate of sciences)(Bratislava)

TITLE: Contribution to the oxidation of saccharides by iodates. (I). Iodometric determination of small quantities of formic acid using amperometric indication

SOURCE: Chemicke zvesti, no. 12, 1964, 913-917

TOPIC TAGS: formic acid, analytic chemistry, electrode, oxidation, iodate, polysaccharide

ABSTRACT: The authors describe a method that they developed for the determination of formic acid, using a couple of polarized platinum electrodes. The method is fast, accurate and suitable for investigations of structure of polysaccharides. Orig. art. has: 3 tables.

ASSOCIATION: Chemicky ustav slovenskej akademie vied, Oddelenie chemie polysacharidov, Bratislava (Department of Polysaccharides, Institute of Chemistry, Slovak Academy of Sciences)

Card 1/2

KALACEVIC, I.; VRBASKI, Lj.

Amylolytic activity of Amylomyces rouxii and Rhizopus sp-907 in the surface and submerged cultivation. Kem ind 13 no.4:274-276 Ap '64.

Correlation between the time and amylolytic power of the dry, untreated Amylomyces rouxii and Rhizopus sp-907 material. Ibid.: 277-278.

1. Chair of Microbiological Processes, Technological Faculty, Novi Sad.

KALACEVIC, IVKA

YUGOSLAVIA / Chemical Technology, Chemical Products and Their Application, Part 3. - Fermentation Industry. H

Abs Jour: Ref Zhurnal Khimiya, No 18, 1958, 62525.

Author : Vojislav Krajovan, Ivka Kalacevic.
Inst : Not given.
Title : Alcohol Fermentation of Hydrolysis Products of Maize Starch.

Orig Pub: Kemija u industriji, 1957, 6, No 10, 304 - 306.

Abstract: Experimental indices of alcohol production from hydrolysis products of maize starch obtained with the application of acid, malt or mold cultures separately and together are presented.

Card 1/1 10

KALACEVIC, Ivka, ing.; JOHANIDES, Vera, dr.,ing.

The state of microflora in some of our fruit and vegetable processing industries. Kem ind 9 no.8:207-216 Ag '60.

1. Zavod za prehrambenu industriju Zagreb.

KALACEVIC, Ivka, ing.

Possibilities of the application of some new disinfictants in our fruit and vegetable processing industries and the examination of their bactericidal (bacteriostatic) power. Kem ind 9 no.8:216-225 Ag '60.

1. Zavod za prehrambenu industriju, Zagreb.

KALACEVIC, I., dipl. inz.

Influence of nutrient mediums on the sporulation velocity of bakery and brewery yeasts. Kem ind 13 no. 6:409-413 Je '64.

1. Faculty of Technology, Novi Sad.

VOL'FKOVICH, S.I.; KALACH, V.S.

Production of compound fertilizers by the fusion of urea and potassium phosphates. Khim. prom. 40 no.9:676-678 S '64. (MIRA 17:11)

KALACHEV

MEDVEDEV; BULYSHEV; KALACHEV.

Signal light with longer visors and a regulating device. Torf. prom. 31 no.6:30 '54. (MLRA 7:9)

1. Kompleksnaya brigada, Shaturskoye transportanoye upravleniye (for all).
(Signals and signaling)

KALACHEV, A.; KANCHUKH, Sh.

Applying an hourly bonus wage system at the Shcheklovo Vitamin Plant. Biul.nauch. inform.; trud i zar. plata 3 no.12:20-23 '60. (MIRA 14:3)

(Shchelkovo(Moscow Province)—Vitamins)
(Shchelkovo(Moscow Province)—Bonus system)

KALACHEV, A.

New service of the Main Administration of Automotive Transportation in Moscow. Za bezop.dvizh. 5 no.8:7 Ag '62. (MIRA 15:8)

1. Nachal'nik otdela bezopastnosti dvizheniya Sluzhby lineynogo kontrolya i bezopasnosti dvizheniya Moskvy.
(Moscow--Traffic safety)

KALACHEV, A.; MAKOVSKIY, I., inzh.

In exchange for traffic safety corners. Za bezop.dviah. 5 no.11:12-13 N '62. (MIRA 15:12)

1. Nachal'nik otdela bezopasnosti dvizheniya Glavnogo upravleniya avtomobil'nogo transporta Moskovskogo gorodskogo soveta deputatov trudyashchikhsya (for Kalachev). 2. Otdel bezopasnosti dvicheniya Glavnogo upravleniya avtomobil'nogo transporta Moskovskogo gorodskogo soveta deputatov trudyashchikhsya (for Makovskiy).
(Moscow—Traffic safety—Study and teaching)

KALACHEV, A.

Indulgence makes a breach. Za bezop. dvizh. 5 no.6:12-13 Je '62.
(MIRA 15:10)

1. Nachal'nik otdela bezopasnosti dvizheniya Glavnogo upravleniya avtomobil'nogo transporta Moskovskogo gorodskogo Soveta deputatov trudyashchikhsya.

(Moscow—Traffic accidents)

KALACHEV, A.A.

Defense of dissertations in the Voronezh Technological Institute.
Izv. vys. ucheb. zav.; pishch. tekh. no.2:176 '63.
(MIRA 16:5)

(Sugar manufacture) (Distillation)
(Voronezh—Dissertations, Academic—Abstracts)

ZVEREV, V. A. and KALACHEV, A. L.

"Frequency Modulation Applied to Acoustic Measurements."

paper presented at the 4th All-Union Conf. on Acoustics, Moscow, 26 May - 4 Jun 58.

SOV/46-4-4-4/20

AUTHORS: Zverev, V.A. and Kalachev, A.I.

TITLE: Measurement of the Interaction of Sound Waves in Liquids (Izmereniye vzaimodestviya zvukovykh voln v zhidkostyakh)

PERIODICAL: Akusticheskiy Zhurnal, 1958, Vol 4, Nr 4, pp 321-324 (USSR)

ABSTRACT: Zverev and Gorelik (Ref 1) showed experimentally that if a high-frequency wave field interacts at right-angles with a low-frequency field, then the high-frequency wave is phase modulated. The present paper describes an approximate calculation and quantitative measurements of such an interaction. This interaction is due to non-linearity of the medium which appears as non-linearity of the hydrodynamic equations and the equation of state. The equation-of-state non-linearity predominates and calculations are based on the assumption that the hydrodynamic non-linearity can be neglected. The phase modulation of the high-frequency wave is due to a periodic change of its velocity in the field of the stronger low-frequency wave. The waves studied by the authors had frequencies of 1.3×10^6c/s and 3×10^3c/s respectively. The experimental technique employed followed Ref 1. The apparatus used is shown schematically in Fig 1. It consists of a high-frequency generator 1, a phase-shifter 2, a high-frequency amplifier 3, a balancing

Card 1/3

amplifier 4, a detector 5, a low-frequency amplifier and filter 6, a ZG-10 low-frequency generator 7, a VKS-7 valve voltmeter 8, a LV-9 valve voltmeter 9, a Plexiglas bath 10, a quartz vibrator (producing 1.3×10^6 c/s) 11, a quartz receiver 12, bellows 13 and an electrodynamic vibrator (producing 3×10^3 c/s) 14. Measurements were made in tap (mains) water, in 93.5% ethyl alcohol, and in 21.6% NaCl solution. Fig 3 gives the vertical distribution of pressure above the centre of the high-frequency vibrator. The ordinate give the values of the logarithm of the voltage produced by a $BaTiO_3$ probe used to measure pressure, while the abscissa gives the distance from the vibrator. Distribution of pressure (in bars) along a horizontal line away from the high-frequency vibrator is given in Fig 4. In both Figs 3 and 4 curves 1, 2 and 3 denote tap water, NaCl solution and ethyl alcohol respectively. The pressure distributions given in Figs 3 and 4 show that the high-frequency waves are not planar. This fact was allowed for in calculations of the rate of change of the sound velocity c with pressure p (dc/dp). The value of dc/dp was obtained from the measured phase modulation of the high-frequency wave. The results obtained are given in a table on p 324. The sixth column gives the values of dc/dp

obtained by the present authors; the seventh column gives dc/dp calculated from static measurements described in Refs 2, 3. From the results obtained the values of the constant b which occurs in the equation of state $P = a\rho + b\rho^2$ (P and ρ are departures of pressure and density from their equilibrium values, $a = c_0^2$ = the square of sound velocity at infinitely small densities and b = a constant for a given medium) were obtained for the three liquids investigated. The values of b and b/a are given in the third and fourth columns of the table. The values of the ratio B/A which occurs in the equation of state $P = A\rho/\rho_0 + (B/2)(\rho/\rho_0)^2$ were also obtained and are given in the fifth column of the table. The latter equation of state comes from Ref 4. The authors' estimate the accuracy of their values of dc/dp to be 17%. There are 4 figures, 1 table and 5 references, 3 of which are American and 2 Soviet.

ASSOCIATION: Gor'kovskiy gosudarstvennyy universitet (Gor'kiy State University)

SUBMITTED: September 18, 1957

ZVEREV, V.A., KALACHEV, A.I.

Application of frequency modulation to acoustic measurements.
Akust. zhur. 6 no.2:205-212 '60. (MIRA 13:8)

1. Nauchno - issledovatel'skiy radiofizicheskiy institut pri Gor'kovskom gosudarstvennom universitete.
(Sound waves)

KULAGIN, S.G.; KALACHEV, A.I.

Studying latitude variations by means of an optical analyzer. Astron.tsir. no.209:18-20 Mr '60. (MIRA 13:9)

1. Gor'kovskaya shirotnaya stantsiya Vsesoyuznogo astronomo-geodezicheskogo obshchestva im.K.K.Dubrovskogo i Nauchno-issledovatel'skiy radiofizicheskiy institut, Gor'kiy.
(Latitude variation)

39993

S/035/62/000/008/012/090
A001/A101

3,1220

AUTHORS: Kulagin, S. G. Kalachev, A. I.

TITLE: Application of an optical analyzer to studying latitude variations

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 8, 1962, 18, abstract 8A146 (In collection: "Predvarit. rezul'taty issled. kolebaniy shirot i dvizheniya polyusov Zemli, no. 2, Moscow, AN SSSR, 1961, 125 - 129, English summary)

TEXT: A special device, optical spectral and correlation analyzer, is proposed for the analysis of astronomical phenomena with respect to their periodicity and for calculations of amplitudes and phases of their periodic components. Three films are drawn in front of the aperture, whose length is D, of the optical analyzer. The process $\varphi(x)$ being investigated is recorded on the one of the films, a sinusoidal signal with a smoothly varying frequency is presented on the second film (filter film), and the third one contains a sinusoidal signal in two halves in anti-phase. The aperture is illuminated with a light source, and the current at the output of photoelements is recorded. When the filter film moves relative to two other fixed ones at a certain speed V, the current at the output of photoelements contains three components which correspond to the main frequency and two

Card 1/2

KALACHEV, A.I.

The nonlinearity relation in gases and liquids. Akust. zhur. 9 no.2:187-191 '63. (MIRA 16:4)

1. Nauchno-issledovatel'skiy radiofizicheskiy institut pri Gor'kovskom gosudarstvennom universitete.
(Ultrasonic waves) (Hydrodynamics)

POGOSTIN, S.Z.; KALACHEV, A.N.

Ways of mobilizing reserves in the production of ascorbic acid. Med. prom. 17 no.9:12-15 S'63. (MIRA 17:5)

1. Nauchno-issledovatel'skiy institut tekhniko-ekonomicheskikh issledovaniy po khimii i Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut.

KALACHEV, B.A.; GUSENKOV, Ye.P.

[Method of determining soil salinity with Markovskii's salinometer and suggested simplifications of the standard method] Metod opredeleniia zasolennosti pochvogruntov pri pomoshchi solemera Markovskogo i predlagaemye uproshcheniia standartnoi metodiki. Moskva, Giprovodkhoz 1963. 17 p. (MIRA 17:7)

KALACHEV, B.A., pochvoved

BKGM-63-2 hydraulic drill and crane for soil and meliorative surveying. Trudy Giprovodkhoza no.25:38-40 '63.
(MIRA 18:6)

GUSENKOV, Ye.P.; KALACHEV, B.A.

Characteristics of soil studies in arid regions. Pochvovedenie no.8:1-10 Ag '65. (MIRA 18:9)

1. Vsesoyuznyy gosudarstvennyy proyektno-izyskatel'skiy i nauchno-issledovatel'skiy institut vodokhozyaystvennogo stroitel'stva, Moskva.

31532
S/627/60/002/000/015/027
D299/D304

3,2410 (1559, 2205, 2805)

AUTHORS: Kalachev, B. V., Nikol'skiy, S. I., Pomanskiy, A. A., and Tukish, Ye. I.

TITLE: On fluctuations in the number of μ-mesons in extensive air showers

SOURCE: International Conference on Cosmic Radiation. Moscow, 1959. Trudy. v. 2. Shirokiye atmosfernyy livni i kaskadnyye protsessy, 166-168

TEXT: The results are given of experiments for detecting fluctuations in the number of mesons and electrons in showers with number of particles $10^5 < N < 2 \cdot 10^6$. The experiments were conducted at an altitude of 3860 m (Pamir), in the fall of 1957. The apparatus consisted of hodoscoped counters, placed at 9 observation points. No fluctuations were observed which would have an appreciable effect on the mean values of the investigated quantities. The computed integral number-spectra were compared with the experimental spectra

Card 1/3

On fluctuations in the ...

for various distances from the shower axis. A larger number of showers with number of particles $N \leqslant 10^6$ were observed than was to be expected by the computations. This may be due either to a considerable contribution of showers, in which the density of the μ-meson component exceeds by many times the mean density as determined by Yu. N. Vavilov et al. (Ref. 2: ZhETF, 32, 6, 1319, 1957), or to the mean density having been underestimated. The second possibility is considered in more detail. Denoting the mean number of μ-mesons in the shower by $\bar{N}_\mu = \alpha N^\beta$, one obtains (in the first approximation) the formula

$$\frac{\Delta C}{C} = \left(n - \frac{\alpha}{\beta}\right)\frac{\Delta\alpha}{\alpha}$$

for $N \leqslant 10^6$; the left-hand side of the formula expresses the relative change in the number of recorded showers, and $\Delta\alpha/\alpha$ expresses the relative error in determining α. For distances of 40-50 m (as well

Card 2/3

L 14524-63 EWT(1)/EWG(k)/BDS/ES(w)-2 APFTC/ASD/ESD-3/AFWL/SSD
Pz-4/Pab-4/Pc-4/Pi-4 AT/IJP(C)
ACCESSION NR: AP3005247 S/0056/63/045/002/0083/0087

AUTHOR: Kalachev, B. V. 81
77

TITLE: Investigation of pulsed discharge in a high-velocity air stream

SOURCE: Zhur. eksper. i teoret. fiz., v. 45, no. 2, 1963, 83-87

TOPIC TAGS: air stream, air flow, pulsed discharge, electric breakdown, prebreakdown phenomena, prebreakdown process, luminescence, discharge column

ABSTRACT: Pulsed discharges and prebreakdown phenomena have been investigated in supersonic and zero-velocity air streams. The investigation was carried out with two groups of condensers with capacities of 14,400 μμf (I) and 15 μf (II). In case I, current and voltage oscillograms were made and discharge-channel and prebreakdown luminescence were photographed at stream velocities of 0 and 4.5, 3, 1.5, and 0.5 M. In case II, high-speed photography was employed, and current and voltage oscillograms were made at velocities of 0 and 3, 1.5, and 0.5 M. The following results were obtained: 1) A high-velocity air stream affects the prebreakdown processes in the discharge gap. 2) The shape of a discharge channel depends on the prebreakdown phase of luminescence and on the velocity and density of the stream. 3) The breakdown voltage depends on the

Card 1/2

L 14524-63

ACCESSION NR: AP3005247

4

stream velocity. 4) The resistance of the discharge gap changes within the range of 1.5—4.5 ohm, depending on M, stream density, and the distance between the electrodes. 5) An increase in M and density leads to an increase in resistance. "In conclusion, the author expresses gratitude to V. I. Alferov for his valuable advice and constant interest in the work and to A. S. Bushman, A. V. Podmazov, and V. I. Grachev for help in conducting the experiment." Orig. art. has: 9 figures.

ASSOCIATION: none

SUBMITTED: 07Mar63 DATE ACQ: 06Sep63 ENCL: 00

SUB CODE: PH NO REF SOV: 002 OTHER: 000

Card 2/2

ACC NR: AP6037053 SOURCE CODE: UR/0056/66/051/005/1281/1287

AUTHOR: Alferov, V. I.; Bushmin, A. S.; Kalachev, B. V.

ORG: none

TITLE: Experimental investigation of the properties of an electric discharge in an air stream

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 51, no. 5, 1966, 1281-1287

TOPIC TAGS: electric discharge, arc discharge, glow discharge, corona discharge, high frequency discharge, volt ampere characteristic, air flow

ABSTRACT: This is a continuation of earlier studies (ZhETF v. 44, 1775, 1963) and is devoted to discharges between electrodes in an air stream. The measurements were made with apparatus described in the earlier paper, at an air velocity 600 m/sec (Mach number M = 3), air densities 0.127, 0.27, and 1.29 kg/m^3, and currents not exceeding 5 amp. Particular attention was paid to conditions under which transitions take place between pre-breakdown (streamer), spark, nonstationary-arc, and diffuse (glow) discharges. The tests consisted of obtaining the volt-ampere characteristics of the discharge, oscillograms of the current, and photographs of the discharge. The tests show that pre-breakdown discharge occurs at sufficiently high voltage on the electrodes in the air stream and is similar in character to corona discharge. It changes either into a spark or a diffuse discharge. At low velocities (~7 m/sec) a discharge occurs with pinched channel, but the discharge is unstable, the arc being carried away by the

ACCESSION NR: AT4013175 S/3059/63/000/000/0158/0164

AUTHOR: Gremilov, D. I.; Kalachev, D. M.

TITLE: Measuring the average coefficient of heat loss of liquid metals by the heat-exchanger method

SOURCE: Zhidkiye metally*, Sbornik statey. Gosatomizdat, 1963, 158-164

TOPIC TAGS: heat loss, heat transmission, liquid metal, heat exchanger

ABSTRACT: Experimental determination of the coefficient of heat loss by direct measurement of the surface temperature of the heat exchanger is difficult in some cases, especially when working with liquid metal heat carriers with high coefficients. The average coefficient of heat transmission may be much easier to determine in simple heat-exchangers. The article describes a method for finding the average coefficients of heat loss for different rates of monophasic turbulent flow of liquid metal in channels of a given shape on the basis of experimental measurement of the coefficients of heat transmission. Given that the coefficient of heat transmission (K) is related to the coefficient of heat loss (a) by the formula

$$\frac{1}{K} = \frac{1}{a} + R \qquad (1)$$

Card 1/2

L 11856-66 EWT(1)/EWT(m)/EPF(n)-2/EWA(d)/EWP(t)/EWP(z)/EWP(b)/ETC(m) WJW/JD/WW/

ACC NR: AT6001353 JG/GS SOURCE CODE: UR/0000/65/000/000/0063/0065

AUTHOR: Kalachev, D. M.; Kudryavtsev, I. S.; Pankar', B. L.; Yakubovich, I. I.

ORG: Central Boiler and Turbine Institute im. I. I. Polzunov (Tsentral'nyy kotloturbinyy institut)

TITLE: Application of a method for high frequency induction heating of metallic heat carriers

SOURCE: Teplo- i massoperenos. t. 1: Konvektivnyy teploobmen v odnorodnoy srede (Heat and mass transfer. v. 1: Convective heat exchange in an homogeneous medium). Minsk, Nauka i tekhnika, 1965, 63-65

TOPIC TAGS: heating, liquid metal, heat carrier

ABSTRACT: In industrial practice for heating in a high-frequency magnetic field, the specific heat flux is practically independent of temperature and can reach values up to approximately 10^7 kilowatts/meter^2. The article describes experiments made with laboratory equipment on a heavy metal alloy and on a light alkali metal. The inductor in the experiments was a solenoid with a diameter of 0.065 meters and a length of 0.450 made from a copper tube with a cross section of 10 x 10 and a wall

Card 1/2

L 11856-66

ACC NR: AT6001353

thickness of 0.0015 meters. In the heavy alloy loop, the coil of the inductor covered a section of the alloy loop, which consisted of a tube with a diameter of 0.05 meters and a wall thickness of 0.0025 meters, inclined at an angle of approximately 30° to the vertical and made of Kh18N10T steel. The light metal was heated by the inductor in a vertical tube with a length of 0.5 meters and an outside diameter of 0.014 meters and made of Kh18N10T steel. The voltage on the leads of the high frequency generator could be set within the limits of 0 to 750 volts. Measurements were made of the power of the generator, the voltage and current strength, temperatures of the metal and the cooling medium at the inlet and outlet of the inductor, and the feed rates of the metal and the cooling medium. For the heavy alloy, the load on the generator was varied within the limits of 25 to 80 kilowatts. Five series of runs were made with a total duration of 110 hours. The runs were made at a constant rate of feed of the alloy equal to approximately 20,000 kg/hour. Depending on the conditions, the temperature of the alloy varied from 473 to 773°K. For the light metal the load was 80 kilowatts, the average temperature in the heater was approximately 1123°K, and the feed rate of the metal was about 2,000 kh/hour. The inductor was operated under these conditions for approximately 150 hours. Results are shown graphically. It is concluded that the method is suitable for practical application. Orig. art. has: 2 figures. Liquid metals 18

SUB CODE: 20/ SUBM DATE: 31Aug65/ ORIG REF: 003/ OTH REF: 001

Card 2/2 HW

KALACHEV, F.

Reliable support of the party organization. NTO 4 no.5:22 My '62. (MIRA 15:5)

1. Sekretar' partiynogo komiteta sovkhoza "Gigant". (Sal'sk District—State farms)

KALACHEV, F.M.

Experience of the "Pervomaiskaia" Factory in increasing the operative capacity of the spinning equipment. Tekst.prom. 25 no.11:32-35 N '65. (MIR 18:12)

1. Glavnyy inzhener Sudogodskoy l'nopryadil'no-tkatskoy fabriki "Pervomayskaya" Verkhne-Volzhskogo soveta narodnogo khozyaystva.

Kalachev - G.S.

VEDROV, V. S., and G. S. KALACHEV.

Issledovanie vykhodov iz planirovanii samoleta R-5. Moskva, 1935. 39 p., illus., tables, diagrs. (TSAGI. Trudy, no. 244)

Summary in English.

Title tr.: Investigation of pull-out from dives of the R-5 airplane.

QA911.M65 no. 244

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

KALACHEV, G.S.

O prodol'noi dinamicheskoi ustoichivosti samoleta. Moskva, 1935. 64 p., tables diagrs, (TSAGI. Trudy, no. 235)

Summary in English.

Bibliography: p. 63-64.

Title tr.: Contribution to the problem of dynamic longitudinal stability of an airplane.

QA911.M65 no.235

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955

KALACHEV, G.S.

O mere prodol'noi dinamicheskoi ustoichivosti samoleta. Moskva, 1938.
60 p., tables, diagrs. (TSAGI. Trudy, no. 365)

Title tr.: Criterion of the longitudinal dynamic stability of aircraft.
QA911.M65 no.365

SO. Aeronautical Science and Aviation in the Soviet Union. Library of Congress, 1955.

KALACHEV, G.S.

O potere prodol'noi upravliaemosti samoleta pri boi'shikh skorostiakh poleta. (Tekhnika vozdushnogo flota, 1946, no. 12, p. 21-30, diagrs.)

Title tr.: Loss of longitudinal control of an aircraft in high-speed flight.

TL504.T4 1946

SO. Aeronautical Science and Aviation in the Soviet Union. Library of Congress, 1955.

Kalachev, G. S.

KALACHEV, G. S., and I. V. OSTOSLAVSKII.

Prodol'naia ustoichivost' i upravliaemost' samoleta. Dopushcheno v kachestve ucheb. posobiia dlia aviatsionnykh vuzov. Moskva, Oborongiz, 1951. 367 p., tables, diagrs.

Title tr.: Longitudinal stability and control of aircraft. Approved as a textbook for schools of advanced aeronautical studies.

TL574.S7074

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congess, 1955.

valuable suggestions and pointers which he used in his final revision. The book contains 54 figures and 3 tables. There are 16 references of which 13 are Soviet, 1 French, 2 English.

TABLE OF CONTENTS:

Card 2/6

KALACHEV, G.S., doktor tekhn.nauk; KOTIK, M.G., inzh.

Steadiness and roll of a plane. Vest. Vozd. Fl. no.5:56-64 My '61. (MIRA 14:8)
(Rolling (Aerodynamics))
(Stability of airplanes, Longitudinal)

KALACHEV, G.S., doktor tekhn.nauk; KOTIK, M.G., inzh.

Spin. Vest. Vozd. Fl. no.10:72-74 O '61. (MIRA 15:2)
(Stability of airplanes)

KALACHEV, G. V.

Kalachev, G. V. -- "Increasing the Milk Productivity of Cows on the Kolkhozes of Kashpirskiy Rayon, Moscow Oblast." Moscow Veterinary Academy. Min Higher Education USSR. Moscow, 1956. (Disseration For the Degree of Candidate in Agricultural Sciences).

So: Knizhnaya Letopis', No. 11, 1956, pp 103-114

KALACHEV, I.B.; TALAKIN, N.I.

Method for determining the elastic and plastic characteristics of wire in torsion. Zav.lab. no.11:1368-1370 '59. (MIRA 13:4)
(Wire-- Testing) (Torsion)

188200 also 2807

24.161
S/032/61/027/005/007/017
B130/B220

AUTHORS: Kalachev, I. B. and Shansheyn, B. V.

TITLE: Methods for testing wire materials for creeping on torsion

PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 5, 1961, 582 - 585

TEXT: A device for determining the creep strength of wire materials on torsion is described. Furthermore, the influence of bending stresses occurring together with tangential stresses is dealt with in these studies. A device was built which is based on the principle of an appliance developed by I. B. Kalachev and I. I. Talakin (Zavodskaya laboratoriya, XXV, 11 (1959)) for studying the influence of static torsion upon wire. A spring of exactly defined dimensions, mean diameter D, diameter of the wire d, number of windings i, and lead t, serves as specimen. The stress τ caused by a load is defined by the formula

$$P = \tau \cdot \frac{p \cdot d^3}{8D\cos\varphi},$$

where φ is the angle of lead. The construction diagram of the apparatus is shown in Fig. 1. The spring 1 is fixed to a hollow rod 2 where two thermocouples 3 introduced and connected with the upper and lower front

Card 1/6

Methods for testing wire...

the torsion amounts to 1 - 2 % maximum when the given parameters are used; this may be neglected. Based on the relations found for small deformations, it is possible to calculate the setting of the spring due to bending stresses λ_{bend} and that due to torsion λ_{tor} as well as the relation $\beta = \frac{\lambda_{bend}}{\lambda_{tor}}$ according to S. D. Ponomarev, W. L. Bidermann, and collaborators (Raschety na prochnost' v mashinostroyenii, (stress calculations in mechanical engineering) v. 1, Mashgiz (1956))

The results obtained for the testing of wire materials for creeping on torsion are plotted in the system of coordinates, relative angle of thrust γ to time t. γ is calculated based on the formula

$$\gamma = \lambda \cdot \frac{d}{\pi D^2 i}.$$

Card 3/6

KALACHEV, I.B.

Method and apparatus for pure bend tests of strip materials at temperatures up to 600°C. Zav.lab. 29 no.7:876-879 '63. (MIRA 16:8)

(Materials--Testing)

KALACHEV, I.G.

ANDRONIKOV, Nikolay Grigor'yevich, kand.voyennykh nauk, dots., polkovnik; BEGISHEV, Aleksandr Semenovich, kand.voyennykh nauk, dots., polkovnik; KALACHEV, Ivan Georgiyevich, kand.voyennykh nauk, dots., polkovnik; KRASHOV, Izrail' Isayevich, kand.voyennykh nauk, dots., polkovnik; TEREKHOV, Petr Vasil'yevich, kand.voyennykh nauk, dots., polkovnik; ZYUZIN, N.M., polkovnik, red.; SOROKIN, V.V., tekhn. red.

[Armored and mechanized forces of the Soviet Army; a brief account of their development and battle experiences] Bronetankovye i mekhanizirovannye voiska Sovetskoi Armii; kratkii ocherk razvitiia i boevogo puti. Moskva, Voen. izd-vo M-va obor. SSSR, 1958. 263 p. (MIRA 11:5) (Russia--Army)

KALACHEV, I.S.

USSR/Engineering - Irrigation

Card 1/1 Pub. 123 - 2/12

Authors : Chokin, Sh. Ch.; Kalachev, I. S.; and Kiktenko, V. A.

Title : Regarding the problem of irrigation of the central Kazakhstan with Irtysh river water

Periodical : Vest. AN Kaz. SSR 6/123, 15-24, June 1955

Abstract : The last development of industry and agriculture in the central Kazakhstan brought up the problem of a more intensive water supply for the Kazakhstan where the natural sources of water are inadecuate. Two projects were worked out in solving the above mentioned problem. An outlined description of these projects is presented. The construction of dams utilizing the Irtysh river waters is suggested in both projects. Map; table.

Institution : .....

Submitted : .....

KALACHEV, K.A.

ABRAMOV, I.V., kandidat tekhnicheskikh nauk; KALACHEV, K.A., laureat Stalinskoy premii, inzhener.

[Economizing metal in every manufactured product] Ekonomit' metall na kazhdom izdelii. Moskva, Izd-vo "Znanie." 1953. 31 p. (MLRA 6:10)
(Metals)

KALACHEV, K. A.

7646. KALACHEV, K. A. -- Kholodnaya shtampovka v mashinostroyenii. pod red. V. D. Golovleva. M., mashgiz, 1954. 280 s. s ill. 27 sm. 8.000 ekz. 13R. 50K. v per. -- pered zagl. avt: G. N. Rovinskiy, S. V. Alabin, V. V. Filippov, K. A. Kalachev I V. G. Zybin. -- Bibliogr: s. 278(30 nazv.) --(55.3908)P 621.96 & (016.3)

SO: Knizhnaya Letopsis', Vol. 7, 1955

ROVINSKIY, G.N.; KALACHEV, K.A.

Mechanical collection of waste in cold stamping large-sized automobile parts. Avt. i trakt. prom. no.7:38-40 Jl '56.
(MLRA 9:10)

1. Moskovskiy avtozavod imeni I.A. Likhacheva.
(Sheet-metal work)

SOV/113-59-2-20/20

AUTHOR: Kalachev, L.D., Lapidus, V.I., Adamovich, A.V., Chapkevich, V.A., Dymshits, I.I., Candidates of Technical Sciences, Korchemnyy, L.V., and Konev, B.F.

TITLE: Critique and Bibliography (Kritika i bibliografiya)

PERIODICAL: Avtomobil'naya promyshlennost', 1959, Nr 2, pp 47-48 (USSR)

ABSTRACT: This is a critical review of the "Raschët i konstruirovaniye mashin, sbor." (Calculation and Design of Machines, Symposium), published by the Chelyabinskiy politekhnicheskiy institut (Chelyabinsk Politechnical Institute), Volume 10, Mashgiz, 1957.

ASSOCIATION: NAMI

Card 1/1

USCOMM-DC-61005

KALACHEV, L. D.

"Investigation of lifetime conditions of a fuel film on a heated surface."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12 May 1964.

Sci Automobile and Automotive Res Inst.

16,8000 (1031,1132,1329)

35321
S/103/62/023/002/008/015
D230/D301

AUTHOR: Kalachev, M.G. (Moscow)

TITLE: Magnetic tape generator of random pulse successions

ERIODICAL: Avtomatika i telemekhanika, v. 23, no. 2, 1962, 186 - 189

Experimental methods are developed for determining statisti-
cteristics of automatic control systems. A generator for
ge is described capable of delivering random pulse suc-
h are used in investigating sampled-data automatic re-
ms with two or three controlling actions. The genera-
s have, at discrete times, equal amplitude and dif-
The intervals between random pulses follow a fi-
bution law. A fixed discrete spacing distribu-
f random successions is obtained as follows:
lse source having the corresponding spacing
to one of the inputs of a coincidence cir-
re applied pulses of frequently recurring
umber of pulses, applied in the inter-

val between K_{th} and $(k + 1)_{th}$ pulses of regular succession result as one pulse of random succession at the time t_{k+1}. When the regular pulse spacing is sufficiently small the discrete spacing distribution envelope for the transformed random succession will correspond to the density of probability of the initial random succession. Different polarities of discrete succession of pulses are obtained by routing the random pulses form the source into two channels by means of a relay. The relay switching frequency should be substantially higher than the pulse repetition frequency of the regular succession. For a pulse incident at the time t_k into one channel the other channel is closed up to the time t_{k+1}, e.g. using a relay with switching frequency of 50 cycles, the pulse repetition of the regular succession should not exceed 5 cycles. Recording and reproduction of random pulse successions using magnetic tapes are discussed. Controlled measurements on reproducing recordings yield results as follows: 1) The frequencies of the positive and negative pulses of random successions appearing are practically the same.

2) The distribution of the number of pulses in fixed time interval follows discrete Poisson's law with adequate degree of accuracy; a table shows experimentally obtained pulse indication frequency values t (t = 1, 2, 3, ...) in the interval of 20 seconds and the corresponding probabilities. There are 2 figures, 1 table and 2 Soviet-bloc references.

SUBMITTED: June 3, 1961

X

KALACHEV, M.I.

KALACHEV, M.I.: "A study of the flow of metal in three-dimensional stamping in presses". Minsk, 1955. Belorussian Polytechnic Inst imeni I.V. Stalin. (Dissertations for the Degree of Candidate of Technical Sciences).

SO: Knizhnaya letopis' No 45, 5 November 1955. Moscow.

Kalachev, M. I. and Bugdanov, Ye. S.

"Forging in a Die With a Permanent 'Flash Saddle' for the Outlet of Excess Metal", pp 81-90, Sbornik Nauchnykh Trudov, Vol 2, Minsk, Izd.-vo. Akademii Nauk B.S.S.R., 1955, 250 pp.

BOGDANOV, Ye.S.; KALACHEV, M.I.

Stamping with dies having a permanent hole for the removal of excess metal. Sbor.nauch.trud. Fiz.-tekh.inst. AN BSSR no.2:81-90 '55.
(MLRA 10:1)

(Sheet-metal work) (Dies (Metalworking))

KALACHEV, M. I.

BOGDANOV, Ye.S.; KALACHEV, M.I.

Determining the average pressure of metal flow to the flash pan and impression cavities of the die. Sbor. nauch. trud. Fiz.-tekh. inst. AN BSSR no.3:20-34 '56. (MLRA 10:6)
(Forging) (Rheology)

SOV/137-57-10-19108

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 10, p 97 (USSR)

AUTHORS: Bogdanov, Ye.S., Kalachev, M.I.

TITLE: Metal Flow in Trimmers and Methods of Calculation for Hot Trimming in Presses (Techeniye metalla v obloynom shtampe i metodika rascheta goryachey obloynoy shtampovki na pressakh)

PERIODICAL: Sb. nauchn. tr. Fiz.-tekhn. in-t AN BSSR, 1956, Nr 3, pp 35-47

ABSTRACT: An examination is made of the conditions for the filling of the cavity and the flash pan of an open die. A chart is compiled for determination of the amounts of metal entering the pan and the sunk portions of the die. Equations are developed for determining resistance to deformation in the flash pan and the die cavity, also for other purposes, and these are recommended for analysis of the open-die drop-forging process.

Ya.O.

Card 1/1

SEVERDENKO, V.P., akademik, red.; KALACHEV, M.I., red.; YUSHKOV, A.V., red.; VOLK, A.A., red.; GURVICH, G.Ye., tekhred.

[Papers of the Conference on the Improvement of the Technology of the Working of Metals under Pressure] Materialy Konferentsii po usovershenstvovaniiu tekhnologii obrabotki metallov davleniem. Minsk, Izd-vo Belgosuniv. im. V.I.Lenina, 1958. 111 p. (MIRA 12:6)

1. Konferentsiya po usovershenstvovaniyu tekhnologii obrabotki metallov davleniyem.
(Metalwork--Congresses)

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 12, p 72 (USSR) SOV/137-58-12-24460

AUTHOR: Kalachev, M. I.

TITLE: Distribution of Normal Stresses in the Line of the Parting Plane of a Trimming Die (Raspredeleniye normal'nykh napryazheniy v ploskosti raz"yema obloynogo shtampa)

PERIODICAL: Sb. nauchn. tr. Fiz-tekhn. in-t AN BSSR, 1958, Vol 4, pp 72-82

ABSTRACT: Equations are presented for the calculation of the normal stresses (S) on the sprue (Sp) and the total pressure in the cavity of a die; graphic distributions of these S are also presented. An experimental diagram of the drop-forging of lead is plotted, based on the assumption that it flows into a conical tube. It is established that the mean pressure in the plane of the parting line remains constant regardless of any change in the diameter of the forging, while in free upsetting it increases with increasing diameter of the forging; the value of the mean pressure in the die cavity and on the Sp is determined by the geometrical parameters of the Sp, and therefore the latter should constitute the starting value in determining the required drop-forging stress.

M. Ts.

Card 1/1

SOV/137-59-1-1660

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 1, p 220 (USSR)

AUTHOR: Kalachev, M. I.

TITLE: Finless Forming and Possibilities of Its Employment in Hot-stamping Crankshaft Presses (Bezobloynaya shtampovka i vozmozhnost' yeye primeneniya na krivoshipnykh goryacheshtampovochnykh pressakh)

PERIODICAL: V sb.: Materialy Konferentsii po usoversh. tekhnol. obrabotki metallov davleniyem. Minsk, Belorussk. un-t, 1958, pp 89-97

ABSTRACT: The author examines the drawbacks which limit the employment of finless stamping. Various designs of dies equipped with a permanent slot are proposed; their employment would make it possible to perform finless stamping in presses and would eliminate the need for production of blanks with exact dimensions. Formulae for the computation of the height of the slot and determination of the forming stresses are given.

M. Ts.

Card 1/1

SOV/137-59-1-1252

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 1, p 170 (USSR)

AUTHORS: Yushkov, A. V., Kalachev, M. I.

TITLE: Changes in Mechanical Properties of Steel ShKh-15 as a Function of the Temperature (Izmeneniye mekhanicheskikh svoystv stali ShKh-15 v zavisimosti ot temperatury nagreva)

PERIODICAL: Sb. nauchn. tr. fiz.-tekhn. in-t AN BSSR, 1958, Nr 4, pp 89-94

ABSTRACT: Static mechanical properties (σ_b, δ, and ψ) of ShKh-15 steel were determined, and its crippling strength under dynamic loading (σ_∂) at temperatures ranging from 20 to 1200°C was established. The magnitude of the σ_∂ was determined by means of upsetting the specimens (30 mm high and 20 mm in diameter) under a drop hammer, the speed of the ram amounting to 6.25 m/sec, in accordance with the formula $\sigma_\partial = A / \epsilon V$, where A is the work done during the plastic deformation; ϵ the degree of deformation (a value of 10% was assumed), and V the volume of the specimen. It was established that at temperatures of 400°, 625°, 950°, and 1200°, σ_b amounted to 66 kg/mm^2, 28 kg/mm^2, 10 kg/mm^2, and 3 kg/mm^2, respectively, while σ_∂ amounted to 54, 54, 25, and 16 kg/mm^2, respectively. T. F.

Card 1/1

S/137/61/000/007/009/072
A060/A101

AUTHORS: Severdenko, V. P.; Kalachev, M. I.

TITLE: Experimental stress determination during pressure treatment of metals

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 7, 1961, 2, abstract 7D7 ("Tr. Konferentsii: Tekhn. progress v tekhnol. prokatn. proiz-va". Sverdlovsk, Metalurgizdat, 1960, 17-26)

TEXT: Experimental methods are worked out for determining the principal stresses under manifold compression in the case of small and large deformations. The construction of a set-up is given by means of which the principal stresses at different points of the deformed volume may be determined. This set-up also makes it possible to simulate some processes of pressure treatment of metals. A compact measuring head - probe is used for the direct measurement of principal stresses inside the deformed body. A longitudinally bent platelet with small initial deflection is used as the stress measuring element. Foil sensors were glued onto this plate, thus making it possible to manage without an amplifier. Experiments in measuring the principal stresses were carried out upon Pb and Sn

Card I/2

Experimental stress determination ...

specimens. The amount of deformation is ~ 1 percent at a deformation rate of 0.7 percent/min. The hydrostatic pressure for the Pb specimens varied between the limits of 4 - 18 kg/sq mm, for the Sn specimens - 7.5 - 12 kg/sq mm. Preliminary experiments have shown that the values of σ_s determined from the second plasticity condition by substituting the principal stresses in the corresponding formula differ from the actual values of σ_s.

Yu. Manegin

[Abstracter's note: Complete translation]

Card 2/2

SEVERDENKO, V.P.; KALACHEV, M.I.

Measuring normal strains during plastic deformation. Sbor. nauch. trud. Fiz.-tekh.inst. AN BSSR no.7:3-8 '61. (MIRA 15:7)
(Deformations (Mechanics)) (Strain gauges)

S/571/61/000/007/002/010
I048/I248

AUTHORS: Severdenko,V.P., and Kalachev,M.I.

TITLE: The stress-strain diagrams of lead, tin, and aluminum under different stress conditions.

SOURCE: Akademiya nauk Belaruskay SSR. Fiziko-tekhnicheskiy institut. Sbornik nauchnykh trudov. no.7. 1961. 13-24

TEXT: The stress-strain diagrams of pure Pb, Sn, and Al were prepared for tensile, compressive, and torsional stresses, using cast, annealed cylindrical specimens. The surfaces were lubricated to reduce external friction. The stress rates ranged from 6×10^{-3} to 3.0 $min.^{-1}$. An increase in radial stresses accompanied by a decrease in axial stress occurred on removal of the load; as shown on the oscillograms for variations of stress at constant strain. The three-axial compression stress-strain curve of Al closely followed the linear compression curve; the deviation was less than 3-4%. Calculations of process parameters for three-axial compression should be based on data from linear compression tests. In

Card 1/2

The stress-strain diagrams...

the case of Pb there was agreement between the curves for compression and tension but the torsion curve was much above. In the case of Sn the torsion curve was beneath. In all tests the distances between the curves decreased with increasing true maximum strain, i.e. it decreased with the breakdown of the initial cast structure. The conclusion is that both the rate of decomposition of the cast structure and the anistropy are determined by the nature of the metal strained. There are 7 figures and 1 table.

Card 2/2

ACCESSION NR: AP4040501 S/0136/64/000/006/0075/0076

AUTHORS: Severdenko, V. P.; Kalachev, M. I.; Ankut, P. A.

TITLE: The effect of temperature and deformation rate in the elongation of technically pure titanium

SOURCE: Tsvetnyye metally, no. 6, 1964, 75-76

TOPIC TAGS: titanium, temperature effect, elongation, elasticity, titanium VT1 1, electron potentiometer EPD 12, metal failure

ABSTRACT: The variation in titanium VT1-1 mechanical properties during its deformation was studied in the temperature range of 20-800C, with the deformation rate varying from 4×10^{-3} to 2.0 min^{-1}. The temperature was measured by a platinum-platinorhodium thermocouple and a D. C. potentiometer. An electron potentiometer EPD-12 was used for a temperature-regulating device. The variation in temperature resulted not only in an increase of decrease of metal resistance to flow but also in certain changes in the alignment of the indicator curves as shown on the metal deformation diagram (see Fig. 1 on the Enclosure). The "limit of physical flow," appearing as a small flat zone in the temperature range of 100-400C, disappeared at 600C. In the latter case, the rate of 4×10^{-3} min^{-1} caused a

Card 1/3

ACCESSION NR: AP4040501

complete metal recrystallization, which proceeded more rapidly than the hardening process. The shape of the indicator curve was similar to that for hot deformation, and the plasticity of the metal was practically unlimited. The increase in the deformation rate at constant temperature raised the resistance to deformation and lowered the metal plasticity. This phenomena was explained by the fact that under these conditions metal recrystallization could not be completed during the deformation period; at constant temperature its velocity remained constant while that of the metal flow was increased tenfold. Further increase in the deformation rate to 2.0 min^{-1} did not affect the shape of the curve; there was a tendency to lower the metal strength, but otherwise the nature of the deformation development and of metal failure remained the same as at the rate of 4×10^{-3} min^{-1}. At 800C the deformation proceeded without metal hardening, regardless of the rate. Orig. art. has: 2 figures.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 06Jul64 ENCL: 01

SUB CODE: MM NO REF SOV: 001 OTHER: 000

Card 2/3

L 39985-65 EWP(k)/EWP(z)/EWA(c)/EWT(m)/EWP(b)/EWA(d)/EWP(d)/EWP(t) Pf-4 IJP(c)
JD/JW/JG

ACCESSION NR: AT5006707 S/0000/64/000/000/0040/0045 41 841

AUTHOR: Severdenko, V. P. (Meritorious scientist of science and technology BSSR, [illegible] sciences, Professor); Kalachev, N. [illegible]

TITLE: Certain characteristics of titanium elongation

SOURCE: AN BSSR. Fiziko-tekhnicheskiy institut. Plastichnost' i obrabotka [illegible] (Plasticity and metalworking by pressure). Minsk, Izd-vo [illegible]

TOPIC TAGS: titanium, tensile, testing, deformation rate, titanium deformation, plastic flow, stress strain diagram, titanium oxidation

ABSTRACT: In order to study the effect of temperature and rate of deformation on the plastic flow curves, the authors used technically pure titanium with a low content of impurities. Hot-pressed titanium rods 22 mm in diameter were cut into [illegible] pieces and [illegible] with ends trimmed off, and made into standard 36x6-mm specimens. These specimens were annealed at 700C for 2 hrs. and air cooled. Annealing was in the region of the alpha-modification. The tests were carried out at 200C intervals from 20 to 800C with an additional test at 100C. To study the effect of the strain rate on the shape of the hardening curve, the

Card 1/2

L 39985-65

ACCESSION NR: AT5006707

strain rate was changed 500 times for each test temperature, and the values of

figures.

ASSOCIATION: None

SUBMITTED: 16May64 ENCL: 00 SUB CODE: IM

NO REF SOV: 002 OTHER: 001

Card 2/2 mc

ACC NR: AT6036701

strain. These data are compared to the well known equation

$$\sigma_v = \sigma_0 + k \ln (V_d/V_0),$$

where σ_0, k, and V_0 are constants and $V_d > V_0$. The VTI-1 titanium was sensitive to temperature changes, since the dependence was satisfied for all strain rates but not for all temperature ranges. In the range 20-400°C, $\sigma_i = f(\ln V_d)$ was linear with k decreasing as a function of temperature. At temperatures -110 and -196°C the strain rate did not affect the stress; however, at 600°C and especially at 800°C, the stress rose sharply as a function of $\ln V_d$. The true uniform deformation in tension, given as a function of temperature, went through a maximum at 175-300°C, depending on the strain rate. At higher strain rates the maximum occurred at lower temperatures. The effect was caused by deformation aging and twinning which together changed the slip behavior during plastic deformation. The limiting plastic deformation in compression, marked by the first appearance of cracks, was minimal in the 175-300°C range. This corresponded with the minimum in tensile plasticity. At about 400°C, the plasticity increased. The torsion results closely paralleled those obtained in tension and compression. Orig. art. has: 5 figures, 1 formula.

SUB CODE: 11/ SUBM DATE: 08Jul66/ ORIG REF: 002/ OTH REF: 002

Card 2/2

ACC NR: AT6036702

tended to align parallel to the maximum deformation direction, while at higher deformations the orientation increased and the angle between the axis of the sample and the needles decreased. In the zone of maximum deformation the twin size was small relative to the grain size. This was true especially of compressive loading, where two prominent zones occurred. At the ends of the sample the deformation was less than at the center. In the temperature range of 20-400°C the microstructure of deformed samples was a function of the stress state. Twins were absent in tension where slip occurred more readily. Much twinning occurred in torsion at 20-400°C, since shear was more conducive to twin formation; however, at high shear deformations and at temperatures above 400°C, slip became the dominant mechanism. Zones were again apparent during compression at 20-400°C. Only at the center did large deformations cause grain fragmentation, and dark etching shear bands were observed along the maximum shear planes. Upon closer examination, these bands revealed micro- and macrocracks. The range 600-800°C marked the initiation of recrystallization in titanium. The recrystallization tendencies varied as a function of strain rate at 600°C, but were stable at all strain rates at 800°C. Torsion testing at 800°C differed from tensile or compressive testing in that slip and twinning occurred simultaneously to produce two new twin planes. Orig. art. has: 3 figures.

SUB CODE: 11/ SUBM DATE: 08Jul66/ ORIG REF: 003

Card 2/2

ACC NR: AP7003281 (N) SOURCE CODE: UR/0250/66/010/012/0941/0944

AUTHOR: Severdenko, V. P. (Academician AN BSSR); Kalachev, M. I.; Ankut, P. P.

ORG: Physicotechnical Institute, AN BSSR (Fiziko-tekhnicheskiy institut AN BSSR)

TITLE: Influence of the rate of deformation on the change in the structure of titanium

SOURCE: AN BSSR. Doklady, v. 10, no. 12, 1966, 941-944

TOPIC TAGS: titanium, tension stress, material deformation, temperature dependence, crystal lattice structure, plastic flow, recrystallization, twinning/ VTI-I titanium

ABSTRACT: This is a continuation of earlier work (Tsvetnyye metally [Nonferrous Metals] no. 6, 1964), where it was established that VTI-I titanium has an anomalous behavior under tension at 600C, indicating variations in the mechanism of deformation as a result of the peculiar crystal structure and properties of the crystal lattice of titanium. To check on the changes occurring in the structure of the metal during plastic flow, the authors carried out a metallographic investigation of titanium, deformed at 600C with different rates of tension. Study of the microstructure of the sample indicates that both hardening and softening recrystallization processes occur in the metal and their net result is to increase the plasticity of the metal. The relative magnitudes of the hardening and softening of the metal depend on the deformation rate. The results also indicate the presence of intense twinning and occurrence of gliding processes in the metal. When the titanium is stretched at a

Card 1/2

KALACHEV, M.M., insh.

Bending large diameter pipes made of stainless steel. Sudostroenie 24 no.1:55-56 Ja '58. (MIRA 11:2)
(Pipe bending)

KALICHEV, M.M., inzh.

Machine used for bending small-diameter pipes. Sudostroenie 24 no.3:64 Mr '58. (MIRA 11:4)
(Pipe bending)